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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MICHAEL JOHN BOLANDER,
JOSEPH ESTILL LENNON, and SONGTAO ZHOU

Appeal 2015-000862
Application 13/652,085
Technology Center 3700

Before LINDA E. HORNER, JILL D. HILL, and THOMAS F. SMEGAL, *Administrative Patent Judges*.

HILL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Michael John Bolander et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's final decision rejecting claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

BACKGROUND

Independent claims 1 and 14 are pending. Independent claim 1, reproduced below, illustrates the claimed invention.

> 1. An antiperspirant product, comprising:
>
> a dispensing package comprising a container body comprising an interior chamber containing an antiperspirant composition, an applicator surface, an elevator axially movable within the interior chamber, and an actuator system comprising a feed screw threadably connected to the elevator, a turn wheel, and a return spring that permits relative axial displacement between the feed screw and the turn wheel, wherein rotation of the turn wheel advances the elevator toward the applicator surface;
>
> an antiperspirant composition disposed within the interior chamber and exposed to the feed screw, the antiperspirant composition comprising an antiperspirant active having a metal to chloride ratio less than or equal to 1.3; and
>
> wherein the feed screw, turn wheel and return spring are molded from a polymer having a flexural modulus from about 275 ksi to about 500 ksi and being resistant to acid degradation.

REJECTION

Claims 1–20 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Johnson (US 5,000,356, iss. Mar. 19, 1991). Final Act. 2.

OPINION

The Examiner finds that Johnson discloses the claimed dispensing package structure, but does not disclose (1) the antiperspirant active having a metal-to-chloride ratio of less than or equal to 1.3, or about 1.15 to 1.3, or (2) a polymer having a flexural modulus of from about 275 ksi to about 500 ksi and being resistant to acid degradation. Final Act. 2–3. The Examiner concludes, however, that it would have been obvious to select the claimed

metal-to-chloride ratio, polymer flexural modulus, and attain the claimed acid degradation resistance, because discovering an optimum value of a result effective variable involves only routine skill in the art. *Id.*

Appellants explain that "[a]ntiperspirant actives having a metal to chloride ratio of less than or equal to 1.3 are preferred due to their relatively high efficacy," but "may lead to the generation of significant amounts of hydrochloric acid (HCl) in the presence of moisture," degrading the dispenser "to the point of being inoperable." Appeal Br. 5; *see also* Spec. Background 1:31–2:9. Thus, Appellants explain,

> there are two factors for selecting appropriate polymer resins for dispensing packages incorporating a feed screw/return spring combination together with an antiperspirant active having metal to chloride ratio of less than or equal to 1.3: i) the polymer is sufficiently resistant to acid degradation, and ii) the polymer also has a sufficient flexural modulus (about 275 ksi to about 500 ksi) for intermittently retracting the elevator and feed screw.

Appeal Br. 5.

Independent Claim 1

Appellants argue claims 1, 3, 5–9, 12, and 13 as a group. We select claim 1 as representative. Claims 3, 5–9, 12, and 13 stand or fall with claim 1.

Regarding the rejection of independent claim 1, Appellants argue that the Examiner failed to "provide a teaching, suggestion or motivation to modify Johnson to provide the claimed polymers and failed to consider the invention as a whole." *Id.*

The Examiner's reasoning explicitly states that it would have been obvious "to select a type of polymer having a certain range of flexural

modulus and resistant to acid degradation to best fit a particular deodorant dispenser design and to optimize the performance and durability." Final Act. 2–3.

Appellants essentially contend that this reasoning is insufficient (i.e., lacks a reasonable basis) because it is not found in Johnson. Appeal Br. 6. According to Appellants, the Examiner failed to explain why "one skilled in the art would have been motivated to seek out the limited set of claimed polymers when faced with a polymer (acetal) that was already described as satisfactory for use" by Johnson. *Id.* at 7. Appellants contend that Johnson's teaching that acetal was already an acceptable resin for use renders the Examiner's explicit reasoning (i.e., "to select a type of polymer having a certain range of flexural modulus and resistant to acid degradation to best fit a particular deodorant dispenser design and to optimize the performance and durability") insufficient. *Id.*

The Examiner, however, does not contend that the proffered reasoning can be found in Johnson. Rather, the Examiner is contending that selecting the claimed metal-to-chloride ratio and polymer flexural modulus, and attaining the resulting acid degradation resistance would have been obvious because discovering an optimum value of a result effective variable involves only routine skill in the art. Final Act 2–3.

Where the general structure of a claim is disclosed in the prior art, it is not inventive to discover the optimum or workable ranges of certain constituents thereof when such discovery involves only "routine experimentation." *See In re Aller*, 220 F.2d 454, 456, (CCPA 1955); *see also In re Peterson*, 315 F.3d at 1325, 1330 (Fed. Cir. 2003) ("The normal desire of scientists or artisans to improve upon what is already generally

known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."). It then becomes relevant to determine whether the claimed variable was known to be a result effective variable. Following the holding in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) that "obvious to try" was a valid rationale for an obviousness finding, the presence of a known result-effective variable is one, but not the only, motivation for a person of ordinary skill in the art to experiment to reach another workable product or process.

Given this framework for obviousness, the basis for the Examiner's conclusion of obviousness need not be found within Johnson. Indeed, it is Appellants' own Specification that tends to show that one skilled in the art would have appreciated that the claimed metal-to-chloride ratio, polymer flexural modulus, and resulting acid degradation resistance were result effective variables, such that determining the optimum or workable ranges thereof would have been a matter of routine experimentation. Indeed, once a known high efficacy active is employed as proposed by Appellants in their own Specification, Appellants teach us that one skilled in the art would have understood that the HCl produced thereby would degrade acetal components of the dispenser. Spec. 1:34–2:3. Based on this knowledge, one skilled in the art would see that Johnson discloses polypropylene as an acceptable alternative to acetal for dispenser components, and would have also known that polypropylene is sufficiently resistant to HCl. *Id.* at 2:3–5. Appellants' Specification also tells us that one skilled in the art would have understood that a certain flexural modulus was needed to retract the feed screw and

elevator sufficiently to relieve the internal pressure necessary to sufficiently limit or prevent weeping. Spec. 2:7–9.

This disclosure from Appellants' Specification points to the metal-to-chloride ratio and polymer flexural modulus as result effective variables, and supports the Examiner's contention that selecting the claimed metal-to-chloride ratio, polymer flexural modulus, and resulting acid degradation resistance would have been obvious because discovering an optimum value of a result effective variable involves only routine skill in the art. Final Act 2–3.

Appellants fail to explain why this knowledge would not render it obvious for one skilled in the art to use routine experimentation to discover an optimum value for the metal-to-chloride ratio and polymer flexural modulus, which polymer also provides acid degradation resistance. We therefore are not persuaded that the Examiner's conclusion of obviousness is in error, and we sustain the rejection of claim 1 over Johnson. Claims 3, 5–9, 12, and 13 fall with claim 1.

Dependent Claims 2 and 4

Appellants argue that, in addition to the reason set forth regarding claim 1, the Examiner erred in rejecting claims 2 and 4 because the Examiner provides no reason why it would have been obvious to select a known polymer from the claimed group. Final Act. 3; Appeal Br. 8.

Because the Examiner provides no reasoning to support the conclusion of obviousness, we do not sustain the rejection of claims 2 and 4.

Dependent Claim 10

Appellants argue that the Examiner failed to provide a reason why it would have been obvious that "the antiperspirant composition generates hydrochloric acid in the presence of water" as recited in claim 10. Appeal Br. 8. Appellants' Specification, however, states that it was known that "high efficacy actives can produce a significant amount of hydrochloric acid (HCl) in the presence of water/moisture." Spec. 1:34–2:3. We therefore are not persuaded by this argument, and we sustain the rejection of claim 10.

Dependent Claim 11

Claim 11 recites that the "turn wheel, return spring and feed screw are made from a polymer that is not polypropylene or acetal." Appellants argue that this limitation was "not specifically addressed in the Office Action, namely why it would have been obvious to one skilled in the art to have excluded acetal and polypropylene from the polymers used to make the feed screw and return spring[.]" Appeal Br. 9. Because the rejection articulates no specific findings or conclusions regarding this limitation, we do not sustain the rejection of claim 11.

Independent Claim 14

Appellants argue claims 14, 16, 19, and 20 as a group. We select claim 14 as representative. Claims 16, 19, and 20 stand or fall with claim 14.

The Examiner makes the same findings for independent claims 1 and 14. Final Act. 2–3. Appellants argue that the Examiner also failed to provide a clearly articulated reason why claim 14 would have been obvious. Appeal Br. 9. However, for the reasons stated above, we find no error in the Examiner's conclusion that selecting the claimed metal-to-chloride ratio,

polymer flexural modulus, and acid degradation resistance would have been obvious because these are result effective values, and discovering an optimum value of a result effective variable involves only routine skill in the art. Final Act. 2–3. We sustain the rejection of claim 14. Claims 16, 19, and 20 fall with claim 14.

Dependent Claim 15

Appellants argue that the Examiner erred in rejecting claim 15, because the Examiner provides no reason why it would have been obvious to select a known polymer from the claimed group. Final Act. 3; Appeal Br. 9.

Because the Examiner provides no reasoning to support the conclusion of obviousness, we do not sustain the rejection of claim 15.

Dependent Claim 17

Appellants argue that the Examiner failed to provide a reason why it would have been obvious that "the antiperspirant composition generates hydrochloric acid in the presence of water" as recited in claim 17. Appeal Br. 10. As noted above regarding claim 10, Appellants' Specification states that it was known that "high efficacy actives can produce a significant amount of hydrochloric acid (HCl) in the presence of water/moisture." Spec. 1:34–2:3. We therefore are not persuaded by this argument, and we sustain the rejection of claim 17.

Dependent Claim 18

Like claim 11, claim 18 recites that the "turn wheel, return spring and feed screw are made from a polymer that is not polypropylene or acetal." Appellants again argue that this limitation was "not specifically addressed in the Office Action, namely why it would have been obvious to one skilled in

the art to have excluded acetal and polypropylene from the polymers used to make the feed screw and return spring." Appeal Br. 10. Because the rejection articulates no specific findings or conclusions regarding this limitation, we do not sustain the rejection of claim 18.

DECISION

We AFFIRM the rejection of claims 1, 3, 5–10, 12–14, 16, 17, 19, and 20 under 35 U.S.C. § 103(a) as unpatentable over Johnson.

We REVERSE the rejection of claims 2, 4, 11, 15, and 18 under 35 U.S.C. § 103(a) as unpatentable over Johnson.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART